

DISCOVERY OF SAUROPOD REMAINS IN CAÑADÓN LAS HORQUETAS, MATASIETE FORMATION (APTIAN), CHUBUT.*

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Geologists of the Comisión Geológica N^o 2 of Y.P.F. communicated to us the existence of dinosaur bones in levels of the Matasiete F., and based on those data we have found the materials that are announced here. Although the obtained remains are isolated and not very complete bones, the data are significant because they correspond to a geologic interval for which we do not have much data. The remains come from high levels (upper members) of the Matasiete F. outcropping in Cañadón Las Horquetas within the ranch of Mr. Salgado. This unit is composed of conglomerates, sandstones, tuffs, and mudstones deposited by a meandering fluvial member (Sciutto, 1981; Hechem, pers. comm.). This unit excludes the basin of the Golfo San Jorge and is laterally related to the lacustrine deposits of the F. Well D-129. This relationship of lateral engagement has been determined by geologists of the Comisión Geológica N^o 2 in the area of Cerro Chenque and Cañadón Matasiete, while Musacchio (1987) determined the age of the levels outcropping in this area corresponding to the F. Well D-129 based on charophytes and ostracods, as Aptian. Due to the lateral relationship that links to the two units, one might think that the levels of the Matasiete F. that contain bony remains also correspond to the Aptian (Hechem, pers. comm.).

The discovered bones are a scapula (found in situ), an ulna, part of a femur and part of a humerus.

The sauropod scapula is right, incomplete, of great size (173 cm.). It does not conserve the extreme of the acromial process, the sector that articulates with the coracoids, part of the scapular sector that forms the glenoid cavity as well as the antero-dorsal border of the scapular blade.

The angle formed between the scapular body and the blade is about 60^o. In lateral view the body shows its largest convexity in the part near the beginning of the scapular blade, the convexity continuing along the blade and terminating in its superior distal extreme. Toward the proximal area this convexity becomes a wide not very deep depression defined by the acromial process in the superior part, weakening gradually toward the scapular process for the glenoid cavity in the inferior part, forming a planar surface. Behind the scapular process that forms the glenoid cavity and in a more medial position a very marked process arises abruptly that disappears gradually when continuing with the sharp ventral border of the blade. The acromial and scapular processes, although incomplete, seem to have been robust. The blade represents 56% of the total length of the scapula. From its contact with the coracoid portion the blade narrows smoothly until its

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middle part, where it begins to get wider until its distal extreme, which is rounded. The inferior border is sharp. In medial view the scapula is concave, its surface lacking special prominences, except for a smooth depression in the area of the acromial process that could be due to deformation.

The ulna, right, incomplete, is of great size (118 cm.). In the proximal part three planes are defined, but the anterior edge that defines the medial and antero lateral faces is lacking in the proximal third. The antero lateral face is concave in its proximal part, losing this character toward the middle part of the bone. In this concave sector are seen longitudinal rugosities for muscular insertion. In the distal sector of the same face there is a prominence that also has the same purpose. In this area the longitudinal rugosities that are also seen in the other two faces are more marked. The medial face presents, in its proximal third (incomplete), a longitudinal depression that is insinuated transversely. The postero-lateral face has a longitudinal furrow in its proximal third that disappears gradually in the middle of the diaphysis. The middle part of the diaphysis is the most narrow of the bone.

The humerus, right, is very incomplete since only part of the proximal half, mainly the deltoid crest is conserved.

The femur is left and the distal fourth is conserved, of great size. In posterior view two clearly projected tibial condyles are seen.

The internal condyle, the larger, elongated, is separated from the end, rounded, by a deep intercondyloid depression that continues in the distal articular zone and in the anterior part less markedly. The external condyle is separated by a light dorsal depression of the fibular condyle, of postero-lateral position. This area is somewhat eroded.

We should clarify that comparisons were made based on the literature. The appendicular bones here described are insufficient to indicate a clear phylogenetic position. The humerus and the femur for their state cannot be compared, the same for the ulna, that is a gracile bone in its proportions and that we can only indicate with certainty the great size of the forelimb of these sauropods. The characteristics of the scapula are the great size of the body and the presence of a postero-ventral process behind the glenoid cavity. Comparing it with sauropods of the Jurassic and of the Upper Cretaceous, the most near similarities would be given with *Patagosaurus fariasi*, of the Callovian of Chubut.

For the great size of the materials here described we can point out the presence of sauropods of great size in the Matasiete Formation whose affiliation could be determined with more eloquent discoveries such as vertebrae or teeth.